

**INFORMATIONAL
Minute Item
57**

08/24/06
W 9777.35
G. Gregory

**THE STATE LANDS COMMISSION
(INFORMATIONAL)**

**The Commission was updated on an event that took place
on the tank ship, Probo Elk, involving a small oil spill.**

This was an informational item only, therefore no vote was taken.

**INFORMATIONAL
CALENDAR ITEM**

57

A)
Statewide

08/24/06

S)

W9777.35
G. Gregory

**STAFF PRESENTATION ON
TANKSHIP PROBO ELK OIL TRANSFER
JULY 6, 2006**

PARTY:

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825-8202

BACKGROUND:

On the night of July 6, 2006, two serious incidents occurred during what should have been a routine oil product transfer at a Los Angeles marine terminal. First, a small oil spill occurred consequent with the transfer. Second, an unsafe condition was discovered on the vessel transferring product, which led the U.S. Coast Guard to expel it from port until all discrepancies were corrected.

The tankship PROBO ELK arrived at the Kinder-Morgan Marine Oil Terminal, Los Angeles Berth 118 in the late afternoon of July 6. She was carrying approximately 80,000 barrels of alkylate, a gasoline additive, and 215,000 barrels of gasoline as cargo for discharge to shore at the marine terminal. After mooring and making ready for oil transfer operations, the ship's crew began actual transfer of alkylate ashore at about 11:30 PM on July 6.

The PROBO ELK was identified as a priority one vessel on July 6, 2006, by staff of the Southern California Field Office, Marine Facilities Division (Division), California State Lands Commission (CSLC). The Division incorporates a risk-based methodology with field operations in order to establish a priority system for monitoring oil transfers at marine terminals throughout the state. The highest priority, priority one, means that the staff has determined the vessel poses greater potential for spill or rule violation than those vessels with lower priorities. In the case of vessels calling in California for the first time, as with the PROBO ELK, a priority one ranking is assigned as a matter of course.

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At 11 P.M. on July 6, a staff Marine Safety Inspector arrived at the Kinder-Morgan terminal to commence monitoring inspection duties. After performing inspection duties on shore, he boarded the PROBO ELK to monitor transfer operations and equipment on the ship. While he was on the ship's main deck, the cargo tank high level alarm and the ship's inert gas system (IGS) alarm began sounding. As he went to make inquiries of the ship's crew regarding the alarms, alkylate cargo began to spill from the vessel's number one cargo tank. The ship's crew terminated the cargo transfer, but about 75 barrels of alkylate spilled onto the main deck before the flow could be stopped. Our Inspector quickly assessed the integrity of the spill containment system and noticed an open main deck scupper was allowing product to pour over the side of the ship. He took immediate corrective action by informing the ship's crew, and the spill was stopped with about three barrels escaping into the harbor.

Division staff analysis and discussions with the Coast Guard have determined that the most likely event leading to the spill was ship's personnel bringing a second cargo pump (number one pump) on line with the number five tank pump already running at a high RPM to supplement the terminal's booster pumps. The pump pressures between the vessel and the terminal were not coordinated correctly, and the pumping of number five tank overwhelmed the pump pressure from number one tank. This allowed product not only to flow ashore, but at the same time flow through the common line into the number one tank, overflowing it. Standard practice would be for ship's personnel to tell the terminal to stand by while the ship lowered the RPMs on the number five pump as they put the number one pump on line, and then bring the pressure on both pumps up together.

With the leak secured, the Inspector turned his attention to the high level and IGS alarms. Cargo tank high level alarms provide notice to vessel crews that volume is exceeding the capacity of the tank and that corrective action must be taken to avoid a spill. The vessel's IGS provides each of the ship's cargo tanks with atmospheres outside the explosive range of the tank's contents. An alarm associated with the IGS means there is potential for an explosive condition to exist within one or more of the ship's cargo tanks, and that immediate action is necessary to restore the system to normal operation.

Given the magnitude of the problems on board the PROBO ELK, the Inspector called the U.S. Coast Guard and advised them of his findings. He also called his Marine Safety Supervisor for assistance. The Supervisor dispatched another Marine Safety Inspector to assist onboard the PROBO ELK. The Inspectors insisted that the ship's crew perform tests of the cargo tanks to determine oxygen content. Following several failed attempts due to faulty equipment testers, a Marine Chemist was brought on board

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July 7, 2006; he determined that four of the ship's seven cargo tanks had oxygen content levels above the safe level of eight percent.

Meanwhile the Assistant Division Chief convened a team of Division personnel with varied backgrounds and training to provide advice and assistance to the Coast Guard and Division Inspectors on the PROBO ELK. The team was responsible for demanding the cargo tank oxygen checks, providing spill details and vessel equipment information to the Coast Guard, and ensuring that the local maritime community was made aware of situation regarding the PROBO ELK. The team is also conducting a comprehensive inquiry of the incident to determine lessons learned. The Division routinely analyzes incidents, gathering information which often leads to improvements to its regulations and inspection programs. Further analysis of these PROBO ELK events are in progress and conclusions will be forthcoming.

The Coast Guard expelled the PROBO ELK from the Port of Los Angeles after the vessel's tanks were properly inerted, and it was safe to sail. The Coast Guard made this decision because the ship was due for a full Tank Vessel Exam, and in light of the ship's condition it was determined that it would be safer to do the inspection out at anchorage. After the ship's crew had made the necessary repairs, the Coast Guard issued them a new Certificate of Compliance (COC). The PROBO ELK was then allowed to return to port and discharge its cargo on July 18. Staff Inspectors attended the discharge, and it was conducted without further discrepancies.

It was fortunate the staff policies of prioritization methodology worked as anticipated and placed an Inspector in the right place at the right time. The Division's personnel selection and training programs provided staff awareness of the kind of problems extant on board the ship. The monitoring program ensured that both the ship and shore's oil transfer equipment and operating procedures were scrutinized. The follow up, continuing analysis may lead to deeper, root causes for what allowed these upsets, particularly in regard to human factors.